

**FRIEDMAN & BRUYA, INC.****ENVIRONMENTAL CHEMISTS**

Date of Report: June 28, 1996  
Date Received: June 20, 1996  
Project: Nitric Tests, PO #M53709  
Date Samples Extracted: June 24, 1996  
Date Extracts Analyzed: June 26, 1996

**RESULTS FROM THE ANALYSIS OF PROCESS WATER SAMPLES  
FOR TOTAL METALS BY  
INDUCTIVELY COUPLED PLASMA (ICP)  
(METHOD 6010)**

**Samples Processed Using Method 3005A  
Results Reported as mg/L (ppm)**

<u>Sample ID</u>	<u>M53709 A Small Tank</u>	<u>M53709 B</u>	<u>Method Blank</u>
Analyte:			
Arsenic	40	33	<5
Cadmium	<1	<1	<1
Chromium	8,100	6,500	<1
Lead	14	7	<1
Silver	<1	<1	<1
Copper	4,600	780	<1
Nickel	10,000	5,800	<1
Zinc	6	7	<1
Iron	43,000	32,000	<10

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Project: Nitric Tests, PO #M53709

**QUALITY ASSURANCE RESULTS  
FOR TOTAL METALS BY  
INDUCTIVELY COUPLED PLASMA (ICP)  
(METHOD 6010)**

Laboratory Code: 69949 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance Criteria
Arsenic	mg/L (ppm)	40	40	0	0-20
Cadmium	mg/L (ppm)	<1	<1	nm	0-20
Chromium	mg/L (ppm)	8,100	8,200	1	0-20
Lead	mg/L (ppm)	14	14	0	0-20
Silver	mg/L (ppm)	<1	<1	nm	0-20
Copper	mg/L (ppm)	4,600	4,700	2	0-20
Nickel	mg/L (ppm)	10,000	10,000	0	0-20
Zinc	mg/L (ppm)	6	6	0	0-20
Iron	mg/L (ppm)	43,000	45,000	5	0-20

Laboratory Code: Spike Blank

Analyte:	Reporting Units	Spike Level	% Recovery		Acceptance Criteria	Relative Percent Difference
			MS	MSD		
Arsenic	mg/L (ppm)	100	104	106	80-120	2
Cadmium	mg/L (ppm)	50	102	102	80-120	0
Chromium	mg/L (ppm)	50	106	105	80-120	1
Lead	mg/L (ppm)	100	99	99	80-120	0
Silver	mg/L (ppm)	20	na	na	50-150	na
Copper	mg/L (ppm)	50	102	103	80-120	1
Nickel	mg/L (ppm)	100	104	104	80-120	0
Zinc	mg/L (ppm)	50	100	101	80-120	1
Iron	mg/L (ppm)	100	102	106	80-120	4

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

na - The analyte indicated was not added to the matrix spike sample.

**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

Date of Report: June 28, 1996  
Date Received: June 20, 1996  
Project: Nitric Tests, PO #M53709  
Date Analyzed: June 27, 1996

**RESULTS FROM THE ANALYSIS OF PROCESS WATER SAMPLES  
FOR SPECIFIC GRAVITY  
@ 15.56 °C**

<u>Sample ID</u>	<u>Specific Gravity</u>
M53709 Small Tank	1.21
M53709 B	1.19



**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

Date of Report: June 28, 1996

Date Received: June 20, 1996

Project: Nitric Tests, PO #M53709

**QUALITY ASSURANCE RESULTS  
FOR SPECIFIC GRAVITY**

Laboratory Code: 69950 (Duplicate)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Sample Result</u>	<u>Duplicate Result</u>	<u>Relative Percent Difference</u>
Specific Gravity	@ 15.56°C	1.19	1.19	0.0

**FRIEDMAN & BRUYA, INC.**

**ENVIRONMENTAL CHEMISTS**

Date of Report: June 28, 1996  
Date Received: June 20, 1996  
Project: Nitric Tests, PO #M53709  
Date Analyzed: June 27, 1996

**RESULTS FROM THE ANALYSIS OF PROCESS WATER SAMPLES  
FOR % ACID BY VOLUME**

<u>Sample ID</u>	<u>% Acid</u>
M53709 Small Tank	8.5
M53709 B	9.0

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**ENVIRONMENTAL CHEMISTS**

Date of Report: June 28, 1996

Date Received: June 20, 1996

Project: Nitric Tests, PO #M53709

**QUALITY ASSURANCE RESULTS  
FOR % ACID BY VOLUME**


Laboratory Code: 69950 (Duplicate)

<u>Analyte:</u>	<u>Reporting Units</u>	<u>Sample Result</u>	<u>Duplicate Result</u>	<u>Relative Percent Difference</u>
Acid	% by volume	9.0	9.0	0

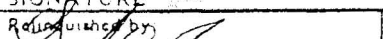
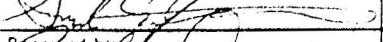


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620.96  
2:17

2:17

SITE NO.		PROJECT NAME		PURCHASE ORDER #	
7238		Nitric tests		M 53709	
SAMPLERS (signature)				PROJECT LOCATION	
					
REMARKS				SAMPLE DISPOSAL INFORMATION	
				<input type="checkbox"/> Dispose after 30 days <input checked="" type="checkbox"/> Return Samples <input type="checkbox"/> Call for Instructions	

[illegible]

SIGNATURE	PRINT NAME	COMPANY	Date	Time
Relinquished by: 	GERALD Thompson	A.C.W	6/20/96	1:50 pm
Received by: 	CATHY DOWNING	FBI	6/20/96	1:50 pm
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D  
Beth M. Albertson, M.S.  
Bradley T. Benson  
Kelley D. Wilt

3012 16th Avenue West  
Seattle, WA 98119-2029  
TEL: (206) 285-8282  
FAX: (206) 283-5044

June 28, 1996

INVOICE # 96ACU0628-1  
DUPLICATE COPY

Accounts Payable  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

RE: Project Nitric Tests, PO #M53709: Results of testing requested by Gerry Thompson,  
Project Manager for material submitted on June 20, 1996.

2 process water samples analyzed for Total Metals by Method 6010 @ \$115 per sample	\$ 230.00
2 process water samples analyzed for Specific Gravity @ \$25 per sample	50.00
2 process water samples analyzed for % Acid by Volume @ \$25 per sample	50.00



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3012 16th Avenue West  
Seattle, WA 98119-2029  
TEL: (206) 285-8282  
FAX: (206) 283-5044

June 28, 1996

Gerry Thompson, Project Manager  
Alaskan Copper Works  
628 South Hanford  
Seattle, WA 98134

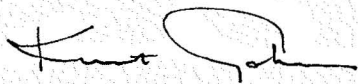
Dear Mr. Thompson:

Enclosed are the results from the testing of material submitted on June 20, 1996  
from your Nitric Tests, PO #M53709 project.

We appreciate this opportunity to be of service to you and hope you will call if you  
should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Kurt Johnson  
Chemist

keh  
Enclosures  
ACU0628R.DOC